

CLAIMS

1. A surgical instrument, comprising:
- 5 a handle assembly;
- an end effector carried by the handle assembly and operable by the handle assembly;
- a first handle included in the handle assembly;
- a second handle included in the handle assembly and pivotal on the first handle at a fulcrum;
- 10 a female bayonet fitting disposed at the fulcrum on the first handle;
- male bayonet fitting disposed at the fulcrum on the second handle;
- the female bayonet fitting and the male bayonet fitting having a first relative position permitting assembly and disassembly of the first handle and the second handle, and a second relative position permitting pivotal movement of the first handle relative to the
- 15 second handle to facilitate operation of the end effector.
2. The surgical instrument recited in Claim 1, wherein:
- the handle assembly has an open position and a closed position; and
- the first relative position is in proximity to the open position
3. The surgical instrument recited in Claim 2, wherein:
- the second relative position is disposed between the open position and the closed position.

9. The surgical instrument, comprising:

a handle assembly;

an end effector carried by the handle assembly and operable by the handle assembly;

5 a pair of handles included in the handle assembly and being pivotal relative to each other at a fulcrum which divides the handle assembly into a proximal end and a distal end;

a pair of finger rings included in the proximal end of the handle assembly.

10 a pair of handle bars included in the proximal end of the handle assembly, each of the handle bars extending more than one-half the distance between the fulcrum and an associated one of the finger rings.

the handle bars being disposed relative to each other to intersect at an imaginary apex other than the fulcrum.

10. The surgical instrument recited in Claim 9, further comprising::

at least one ridge formed along one of the handle bars to facilitate finger placement when the instrument is palmed by a user

11. The surgical instrument recited in Claim 9, wherein:

the handle bars are disposed relative to each other to define a first angle at the imaginary apex when the handle bars are in a closed position and to define a second angle at the imaginary apex when the handle bars are in an opened position.

12 The surgical instrument recited in Claim 11 wherein the imaginary apex moves proximately as the handle bars move from the closed position toward the opened position.

13. The surgical instrument recited in Claim 12 wherein the imaginary apex is disposed distally of the fulcrum, in both the opened position and the closed position.

14. The surgical instrument recited in Claim 9, further comprising:
a bayonet coupling disposed at the fulcrum and permitting pivotal movement of the handles at the fulcrum.

15. The surgical instrument recited in Claim 9 wherein:
the handles have an intermediation disposed between the proximal end and the distal end; and

the handles at the intermediate section have a cross sectional area less than
5 that of the proximal end and the distal end.

16. A surgical instrument, comprising:

a handle assembly;

a cartridge of surgical staples removably attached to the handle assembly
an operable by the handle assembly.

5 a first handle and a second handle included in the handle assembly and
being pivotal at a fulcrum and relative to an axis, between an open position and a closed position;

a first flange fixed to the first handle and extending inwardly toward the
second handle, the first flange including portions defining a first slot;

a second flange fixed to the second handle and extending inwardly toward
10 the first handle, the second flange, including portions defining a second slot;

the first slot being disposed at an angle to the second slot and intersecting
the second slot at a point of operation between the open position and the closed position of the
handles; and

an operating pin included in the cartridge and disposed in the slots at the
15 point of operation to operate the cartridge as the handles move between the open position and the
closed position.

17. The surgical instrument recited in Claim 16 wherein the first slot is
defined at a constant angle relative to the axis.

18. The surgical instrument recited in Claim 16 wherein the first slot is non-
linear with respect to the axis.

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24. The surgical instrument, comprising:

a handle assembly;

a first handle and a second handle included in the handle assembly, the first handle being moveable at a pivot point on the second handle between an open position and a closed position;

a first flange carried by the first handle and extending toward the second handle, the first flange having a first planar surface;

a second flange carried by the second handle and extending toward the first handle, the second flange having a second planar surface.

the first planar surface of the first flange slidingly engaging the second planar surface of the second flange to define a point of stability inhibiting movement of the first flange in a direction transversed to the second planar surface.

25. The surgical instrument recited in Claim 24 wherein the point of stability is a first point of stability, and the stapler further comprises:

a second point of stability disposing in a spaced relationship with the first point of stability.

26. The surgical instrument recited in Claim 25 wherein:

the instrument has a length measured along an axis; and

the second point of stability is separated from the first point of stability a distance greater than one-half the length of the instrument.

27. A surgical instrument, comprising:

a handle assembly;

a first handle included in the handle assembly;

a second handle included in the handle assembly and being moveable on

5 the first handle at a pivot point dividing the handle assembly into a proximal end and a distal end, the first handle being rotatable relative to the second handle between an open position and a closed position;

overdrive protectors included in the stapler for preventing rotation of the handles beyond the closed position;

10 a first overdrive protector disposed at the distal end of the handle assembly;

a second overdrive protector disposed at the proximal end of the handle assembly; and

a third overdrive protector disposed on the cartridge.

28. The surgical instrument recited in Claim 27, further comprising a bayonet coupling disposed at the pivot point of the handle assembly.

29. The surgical instrument recited in Claim 27, further comprising:

a leaf spring disposed between the first handle and the second handle to bias the handle assembly to the open position.

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35. A surgical instrument, comprising:

A non-disposable portion including a handle assembly with arms having first alignment characteristics;

a disposable portion carried by the handle assembly and including end effectors with second alignment characteristics;

the end effectors being disposed relative to the arms and having a floating relationship with the arms; whereby

the second alignment characteristics of the end effectors are independent of the first alignment characteristics of the arms.

36. The surgical instrument recited in Claim 35, wherein:

The non-disposable portion includes a fulcrum and;

the disposable portion is releasably attached to the non-disposable portion at the fulcrum.

37. The surgical instrument recited in Claim 35 wherein the end effectors are disposed between the arms.

38. The surgical instrument recited in Claim 35, wherein:

the end effectors include a first end effector and a second effector cooperating with the first end effector to produce an end effect; and
the first end effector having a pivotal relationship with the second end effector.

39. The surgical instrument recited in Claim 38, wherein:

the fulcrum of the non-disposable portion is a first fulcrum; and
the first end effector pivots relative to the second end effector at a second fulcrum.

40. The surgical instrument recited in Claim 39 wherein the first fulcrum is different from the second fulcrum.

41. The surgical instrument recited in Claim 40 wherein the first fulcrum is spaced from the second fulcrum.

42.

The surgical instrument recited in Claim 41 wherein the first fulcrum has a first axis and the second fulcrum has a second axis different than the first axis.